

LOCKHEED AIRCRAFT CORPORATION		ENGINEERING STUDY <input type="checkbox"/>		CHANGE PROPOSAL <input checked="" type="checkbox"/>		LAC - 174-1				
DATE 30 October 1964		AFFECTS: WSPO <input type="checkbox"/>		PROJECT <input checked="" type="checkbox"/>						
NAME OF MAJOR COMPONENT WING		PART OR LOWEST SUBASSEMBLY		PART NO. & MODEL OR TYPE						
TITLE OF PROPOSAL : WING PYLON DROP TANK INSTALLATION										
NATURE OF PROPOSAL : SEE PAGE 2										
REASON FOR PROPOSAL : To provide wing pylon droppable fuel tanks and provisions on all project aircraft										
ES		ESTIMATED COST AND TIME INVOLVED : ADDITIONAL FUNDING REQUIRED :								
CP		ESTIMATED COST FOR KITS OR PARTS : See Page 3 thru 5 ADDITIONAL FUNDING REQUIRED : See Page 5								
ITEMS AFFECTED BY PROPOSAL :										
SAFETY <input type="checkbox"/>	MISSION EFFEC- TIVENESS <input checked="" type="checkbox"/>	PERFORM- ANCE <input checked="" type="checkbox"/>	OPERATING PROCEDURE <input checked="" type="checkbox"/>	INTER- CHANGE- ABILITY <input type="checkbox"/>	WEIGHT OR WEIGHT & BALANCE <input checked="" type="checkbox"/>	TOOLS & SUPPORT EQUIPMENT <input checked="" type="checkbox"/>	MAINTENANCE PROCEDURE <input checked="" type="checkbox"/>	SERVICE LIFE <input type="checkbox"/>	FLIGHT MANUAL <input checked="" type="checkbox"/>	MAINTENANCE MANUAL <input checked="" type="checkbox"/>
EST. MAN/HRS. REQ'D. TO ACCOMPLISH CHANGE IN FIELD										
SOURCE OF PARTS FOR KIT GFAE & LAC				AVAILABILITY - WEEKS AFTER APPROVAL See Pages 4 & 5						
DISPOSITION OF SPARES AFFECTED NONE										
INITIATED BY : CUSTOMER				APPROVED : WFO						

NATURE OF PROPOSAL:Part A - AIRCRAFT REWORK

The aircraft wings will be reworked to provide mounting provisions for the pylon tanks at wing sta. 210. This rework will consist of adding two chord-wise beams straddling W.S. 210 and extending from the forward wing beam (15% chord) to the aft wing beam (48% chord). These chord-wise beams will support the pylon tank and will form two sides of a "dry well" located between the beams. The "dry well" will contain the pylon tank retaining hook, the hook release actuator and the electrical disconnect. Shear pin fittings, fuel disconnect and engine bleed air disconnect fittings will be located between the chord-wise beams in the "wet" area of the wing.

Additions to the fuel system will include an engine bleed air system to transfer fuel from the drop tanks to the sump tank. This system will consist of plumbing, an air pressure regulator, a solenoid shut-off valve and two check valves. The fuel will be piped from the drop tank to the auxiliary tank feed line (main tank feed line on Models with ARS) down-stream of the existing check valve in that line. This transfer system will consist of fuel plumbing, two check valves and two pressure switches to provide cockpit indication.

The transfer system as described above will assure that drop tank fuel will be used first. The existing fuel system will remain unchanged so that depletion of drop tank fuel, jettisoning of drop tanks, or any malfunction causing loss of transfer pressure, will result in the basic fuel system feeding in the normal manner.

Part B - DROPPABLE PYLON TANKS

Since the pylon tanks are expendable and since total mission degradation is not serious due to the short period of time the tanks are carried, some weight and drag can be traded for a reduction in cost.

The tank selected is a modified Sargent-Fletcher fire bomb. The tank will be 100-gallon capacity complete with a cast pylon and the necessary plumbing, air and electrical provisions. The tank will be made by Sargent-Fletcher on their high production rate fire bomb tooling with only slight additional tooling required for the pylon and fire bomb modifications. This will result in minimum non-recurring costs and minimum unit price for the tanks.

The total weight change to the aircraft is anticipated not to exceed 250 pounds. The permanent weight increase will not be more than 100 pounds. It is presumed that the installation can be accomplished such that the location will not shift the aircraft c.g. and therefore, no change in ballast will be required.

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